UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
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FEB 19 2015

Mr. William T. Walker
Chief, Regulatory Branch
U.S. Army Corps of Engineers
Norfolk District
803 Front Street
Norfolk, Virginia 23510-1096

Re: PN: NAO-2010-0423/2012-1671 Berry Hill Industrial Park, Danville, Virginia

Dear Mr. Walker:

The U.S. Environmental Protection Agency (EPA) has completed its review of the proposed Berry Hill Industrial Park (Berry Hill) near Danville in Pittsylvania County, Virginia. EPA's comments are based on the Public Notice and the materials provided for the revised application, including the Market Analysis, the Conceptual Mitigation Plan, plans, and narrative responses. Pursuant to Paragraphs I.2 and IV 3(a) of the 1992 Clean Water Act (CWA) Section 404(q) Memorandum of Agreement between EPA and the Department of the Army (MOA), EPA is hereby notifying the U.S. Army Corps of Engineers (Corps) that in EPA's opinion, this project may result in substantial and unacceptable impacts to aquatic resources of national importance.

As you know, the CWA Section 404(b)(1) Guidelines (Guidelines) (40 C.F.R. Part 230) provide the substantive environmental criteria against which the application must be considered. Fundamental to the Guidelines is the premise that no discharge of dredged or fill material may be permitted if: (1) it causes or contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable state water quality standard; (2) a practicable alternative to the proposed discharge exists that would have a less adverse impact on the aquatic environment; or (3) the discharge would cause or contribute to significant degradation of waters of the United States (WOUS). At this time, it is unclear whether the proposed project complies with the Guidelines.

Project Description

Berry Hill Industrial Park is a planned development location for large industries with the goal of transforming the regional economy by providing a major source of employment. The City of Danville and Pittsylvania County are working jointly to develop the approximately 3,500 acre site through the Dansville-Pittsylvania Regional Industrial Facility Authority (RIFA). To attract industrial clients, RIFA is proposing to construct the first phase of the industrial park on 442.8 acres of the site. Revised Phase 1 activities include permanent impacts to a total of 6,491 linear feet (lf) of streams, temporary impacts to a total of 1,229 lf of stream channels, and fill of

7.065 acres of wetlands for development of pad sites, utilities, and rail spur installation. Impacts to streams consist of 2,401 lf of ephemeral stream channel, 3,717 lf of intermittent stream channel, and 373 lf of perennial stream channel. Wetland impacts are proposed to 4.334 acres of palustrine forested wetlands, 2.427 acres of palustrine scrub shrub wetlands and 0.244 acres of palustrine emergent wetlands. The applicant proposes to compensate for the permanent stream channel impacts with a combination of purchasing credits and riparian buffer preservation. Wetland impacts will be compensated through purchase of 12.68 acres of wetland credits from an approved bank.

The impacts are within important headwater stream and wetland systems of Trotters Creek, McGuff Creek, and the Dan River. The Dan River is a major tributary to the Roanoke River. The Dan and the Roanoke River are interstate waters and these waters are significant tributaries to the Albemarle Sound and can be considered aquatic resources of national importance. The Albemarle-Pamlico estuary is the secondary-largest estuary in the contiguous United States.

The initial joint permit application (JPA) for Phase 1, previously public noticed on December 10, 2012, included a development area of 1,370 acres of the 3,500 acre site with permanent impacts to a total of 36,135 lf of stream channel and 20.38 acres of wetlands, including 15.89 acres of forested wetlands. During the review of this previous proposal, EPA identified a number of concerns, including loss of valuable aquatic resources for speculative development, insufficient analysis of practicable alternatives, and a lack of demonstration of avoidance and minimization. Other significant issues identified included inadequate characterization of the resources onsite, the potential for significant secondary and cumulative impacts, and a deficient mitigation proposal.

The scope and scale of the revised project and proposed impacts have been reduced from the previous proposal. In addition, the applicant has supplied market and financial analyses. EPA appreciates the efforts taken by the applicant to evaluate the proposal and identify opportunities to reduce impacts to aquatic resources. However, the previously-stated concerns remain, particularly regarding the difficulties associated with analyzing alternatives, avoidance, and minimization without identifying the needs of an identified user of the site, and the project may impact aquatic resources of national importance. General comments are discussed below and the attached enclosure provides additional specific comments and questions.

Resource Characterization

The environmental information provided in the original JPA lacked a full resource characterization of the onsite aquatic resources. The resubmittal did not address this deficiency. No additional information regarding resources to be impacted or avoided onsite was provided. To fully assess the impacts under the Section 404(b)(1) Guidelines, detailed information is needed regarding the quality of the resources in the proposed project area. As stated in our previous letter, headwater streams and wetlands are vital components of the ecosystem. Filling these resources is not only a direct impact, but will likely lead to changes in the biogeochemical and hydrologic conditions of the receiving streams.

Therefore, baseline data regarding these resources should be obtained to show the current condition of the streams and functions of the aquatic resources within in the project site and to assess their contributions to the downstream stream network. This data is needed to assess the direct, secondary, and cumulative impacts of the proposal. In addition, it is necessary to demonstrate the adequacy of the mitigation proposal, which includes proposed onsite buffer preservation and to assure a no-net loss of resource functions and values.

Alternatives, Avoidance, and Minimization

The 404(b)(1) Guidelines restrict discharges when there is a practicable alternative that would have less adverse impact on the aquatic ecosystem. The range of alternatives to be evaluated under the Section 404(b)(1) Guidelines is defined by the purpose and need for the project. The applicant proposes to fill waters of the U.S. for the "purpose of providing pre-development infrastructure, transportation, and pad site improvements of a size necessary to attract and industrial use capable of providing a transformational, substantial positive economic impact to the Danville/Pittsylvania County area." EPA understands that the applicant's intent is to make Danville and Pittsylvania County attractive to industries for the purpose of creating economic growth and job development. However, the information provided does not demonstrate that the proposed project represents the least damaging practicable alternative (LEDPA) for achieving that project purpose. Based on the materials provided for review, the applicant has not yet demonstrated that there are no practicable alternatives either on or offsite that would have fewer impacts to waters of the U.S.

Potential users of the site were identified as manufacturers of wood and paper products, plastics and rubber, or fabricated metal products. The market analysis indicates that these types of industries require certain infrastructure, primarily utilities, and large pad areas. However, no future users of the site have been identified, and the project remains speculative in nature. Without ascertaining the specific needs of committed or potential end-users or tenants, it is extremely difficult to evaluate the full range of potential alternatives and to determine whether impacts to aquatic resources have been minimized. The construction of Phase 1 as proposed may result in more impact to waters of the U.S. than is necessary to achieve the project purpose.

An offsite alternatives was presented as part of the Market Analysis. Of the seven sites listed in the primary market, the Burlington-Hurt site was the only potentially competitive property identified. However, potential environmental contamination was listed as a concern for redevelopment of the Burlington-Hurt site, as well as for the DuPont site in the secondary market. While a potential industry conducting initial site selection may not wish to pursue a brownfields site that needs potential environmental remediation, a partnership such as RIFA could promote the reuse of brownfield sites by remediating and preparing the site for new development. Reuse of brownfields can increase local tax bases, facilitate job growth, reduce development pressures on undeveloped land, utilize existing infrastructure, and improve and protect the environment. Both federal and state incentive programs can potentially be available to assist in these efforts. Additional comments and information can be found in the enclosure.

An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology and logistics, in light of overall project purpose.

40 C.F.R. § 230.3(q). While proposed impacts have been reduced onsite, the applicant has not demonstrated that the currently proposed configuration represents the least damaging practicable alternative. On the contrary, an option is presented that would reduce impacts (Option #1) from the preferred alternative (Option #2), but is considered to not be economically viable. The information provided is not sufficient to show that the minimally-impacting option is not practicable. In addition, within the 442.8 acre Phase 1 area currently identified, additional alternative layouts may exist that represent a reduced impact from the preferred layout. Impacts to the highest quality and most sensitive resources should be avoided and minimized. To identify the LEDPA, the full range of practicable alternatives must be considered. Ultimately, the permit issued by the Corps should reflect the LEDPA. 40 C.F.R. § 230.10(a).

Secondary and Cumulative Impacts

The Section 404(b)(1) Guidelines direct consideration of both secondary and cumulative impacts. EPA is concerned with the potential secondary effects, including potential water quality degradation, impacts to hydrology, habitat loss, loss of biodiversity, and downstream impacts from the loss of nutrient cycling and organic matter input and processing. These secondary effects were not fully addressed in the application materials and should be thoroughly evaluated

Cumulative impacts should also be fully evaluated. Cumulative impacts, as defined at 40 C.F.R. § 230.11(g)(1) are the changes in an aquatic ecosystem that result from the collective effect of a number of individual discharges. Although the impact of a particular project may be considered minor, the cumulative effect of numerous piecemeal changes can result in a major impairment of the water resources.

The current proposal represents the first of the multiple-phase project. The information provided indicates that Berry Hill will be the largest industrial park in Virginia once all phases have been completed. While the Phase 1 Permit Revision response states that there are no significant impacts on the Dan River because the percentage of drainage area impacted by Phase I is small, the additional development associated with Berry Hill and the potential direct, secondary, and cumulative impacts on the aquatic ecosystem from all project phases, road upgrades, utilities, and all other projected development should be thoroughly analyzed, regardless of whether these are separate and complete projects. These impacts should be considered along with other impacts in the watershed from the past, present, and reasonably foreseeable future projects to evaluate whether the combined effects of activities may result in significant degradation of aquatic resources. Some of these activities include other large development sites, impacts from agriculture and timbering, and future potential stressors to the watershed including uranium mining, hydraulic fracturing, and a proposed landfill. Finally, the impact on the local watersheds of McGuff Creek and Trotters Creek may be significant.

Mitigation

Once it is determined that the applicant has taken all appropriate and practicable steps to avoid and minimize adverse impacts, compensatory mitigation should be considered. The fundamental objective of compensatory mitigation is to offset environmental losses. It is

currently unclear whether the proposed mitigation is sufficient to achieve this purpose. As previously indicated, the applicant is proposing to compensate the wetland impacts by purchasing 12.68 acres of wetland credits from an approved bank. The applicant determined that 6,577 stream credits would be required to compensate for the stream impacts, using Unified Stream Methodology worksheets. Currently, only 2,524 stream credits are available in the watershed. RIFA proposes to purchase these credits and to preserve buffers along 33,244 linear feet of watercourses onsite.

Preservation of riparian buffers is a valuable best management practice to reduce secondary impacts, but it may not be sufficient to offset the impacts from the direct loss of tributaries; in addition, the secondary impacts may also require mitigation. It is also unclear whether the preserved channels will be sustainable after development of the site. While the Final 2008 Mitigation Rule considers the use of preservation as a form of compensation, the rule indicates that the resource to be preserved should contribute significantly to the ecological sustainability of the watershed, that important physical, chemical, and biological functions in the watershed are being preserved, and that the resource is under threat of destruction or adverse modifications. 40 C.F.R. § 230.93(h).

To ensure that aquatic resource functions are adequately replaced, the current condition of the proposed waters to be impacted should be thoroughly evaluated. Appropriate and acceptable assessment methodologies, including chemical and biological assessments, should be used to identify the condition and functions of the streams and wetlands onsite. In addition, the quality of the resources to be preserved as mitigation should be fully assessed to demonstrate that they will contribute significantly to the ecological sustainability and will preserve important physical, chemical, and biological functions in the watershed. The documentation used to determine the mitigation credits, including photos and assessment forms should be provided.

Conclusion

While modifications have been made to reduce the footprint of Berry Hill Phase 1, EPA believes that the project as currently proposed may not comply with the Section 404(b)(1) Guidelines, that the project may adversely affect water quality, and may result in significant degradation to the aquatic ecosystem. Further modifications to the proposed project and the permit application need to be considered to address such impacts. It remains unclear that there are no less damaging onsite or offsite alternatives and that the lack of information regarding the needs of future tenants impairs the analysis of potentially less environmentally practicable alternatives. The discharge of fill material in the headwater streams and wetlands may have significant adverse effects, which in turn may have an adverse effect on the Dan River watershed and may result in significant degradation of waters of the United States.

The proposed discharge of pollutants may have an adverse effect on the aquatic ecosystem diversity, productivity, and stability through the loss of benthic and wildlife habitat, and loss of a wetland's capacity to assimilate nutrients or purify water. The impacts to vital watershed functions and potential resultant impacts to downstream receiving waters, including the Roanoke River and Albemarle-Pamlico Sound, need to be considered and thoroughly assessed. In light of these concerns, EPA believes that the project may result in unacceptable

and adverse impacts to aquatic resources of national importance as defined in Part IV, paragraphs 1 and 3(a), of the 1992 Clean Water Act Section 404(q) Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army.

Thank you for the opportunity to provide comments. Additional comments can be found in the attached enclosure. As we have stated previously, EPA understands the applicant's goal to improve the economic condition of the area and the people who live there. Please be assured that EPA wishes to work with the Corps and the applicant to resolve our concerns. If you have any questions please do not hesitate to contact Ms. Carrie Traver, at 215-814-2772 or by email at traver.carrie@epa.gov

Sincerely,

Jeffrey D. Lapp, Associate Director
Environmental Assessment and Innovation Division

Enclosure: Detailed comments for NAO-2010-0423/2012-1671; Berry Hill Industrial Park

Resource Characterization

The original Joint Permit Application (JPA) and the revised proposal lack baseline data regarding the current water quality, existing biological communities, and functions and values of the aquatic resources to be impacted.

The streams onsite are not listed for impairment on the Clean Water Act Section 303(d) list; the presumption would be that the biological communities are likely not impaired. However, the quality of the resources onsite is unclear without an assessment. Benthic macroinvertebrates are typically used as biological indicators as they provide an easily sampled representation of long-term water quality conditions. The Virginia Department of Environmental Quality (VDEQ) uses the Virginia Stream Condition Index (VSCI) multimetric macroinvertebrate index to assess the aquatic life use status of wadeable streams and rivers in freshwater non-coastal areas. This index utilizes biological metrics that are regionally calibrated. Baseline data, including biological assessment using the VDEQ's VSCI methodology and metrics, and basic field chemistry (e.g. temperature, pH, dissolved oxygen, and specific conductance) should be obtained where possible and presented as part of the revised application. Additional chemical analyses of the water quality may be appropriate if biological impairment is detected.

VSCI may not be appropriate for all streams onsite. For intermittent or perennial high gradient streams which may be too small to sample with a kicknet, alternative methods may be appropriate. For ephemeral streams, data in addition to the Unified Stream Methodology forms could include an assessment using Ohio EPA's Primary Headwater Habitat Evaluation forms or another method that describes the stream gradient, substrate, channel dimensions, morphology, and any biota encountered. Representative photos should also be provided for all resources to be impacted.

The JPA lacked information regarding the functions and values of the wetlands onsite. The structure, current level of functions, and the extent of the impacts on these functions for each of the wetlands to be impacted or preserved in the Phase 1 area should be discussed in a narrative, and supporting data and photographs should also be provided. Functions and values to be evaluated include, but are not limited to: water quality protection, nutrient processing, nutrient and carbon storage, stormwater attenuation, flood attenuation, support for biodiversity, and the suite of habitat functions for wildlife, including escape, feeding, resting, breeding, and rearing habitat, particularly for aquatic-dependent birds herpetiles, and endangered species. As part of the assessment, the age, type, composition, and maturity of the vegetative communities should be quantified and described, along with sources of hydrology, hydrogeomorphic classification, and an evaluation existing stressors or disturbance. The method(s) of functional assessment should be discussed.

The "Critical Habitat Survey of Isolated Wetlands on the Berry Hill tract near Danville in Pittsylvania County, Virginia" from the Virginia Vernal Pools Program of Sweet Briar College examined a number of wetland sites and described their biota. The report recommends priority zones for preservation and long-range management of the assessed aquatic resources. How does

the current proposal consider the findings and recommendations of this report? How does the overall site plan consider the recommendations?

Clearly presented baseline data is critical to show the current condition of the resources onsite, their quality and level of functions, and their contributions to the downstream stream network. Baseline data informs decisions of avoidance and minimization onsite, as the highest quality or most critical resources are identified. The data is also essential to inform decisions regarding appropriate compensation of the impacts.

Proposed Impacts

Some variation is found in the impacts reported. For instance, the narrative indicates that Phase 1 activities include permanent impacts to 6,491 linear feet (lf) of stream channel, including 2,401 lf of ephemeral, 3,717 lf of intermittent, and 373 lf of perennial. The mitigation narrative indicates that a total of 6,494 lf of streams is proposed to be impacted. The impacted stream perennial and ephemeral lengths match, but it indicates 4,515 lf of intermittent stream impact. Likewise, the impacts to wetlands vary slightly in the materials. The impacts to each resource should be consistently and accurately identified.

The plans provided in the revision generally appear to be provided to support the alternatives. However, these plans are inadequate to fully assess the impacts. It is unclear whether all direct, temporary, and indirect impacts are identified. Once a LEDPA is identified, the site plan should clearly show all jurisdictional resources onsite and the proposed impacts to these resources.

Secondary and Cumulative Impacts

EPA is concerned with the potential secondary effects to the aquatic ecosystem onsite and downstream that may result from the project, particularly from the filling of headwater streams and wetlands. In addition to the loss of resource, the proximity and extent of impervious areas in the watershed has been shown to be linked with impairment in streams. The use of stormwater best management practices may help reduce some impacts associated with stormwater runoff from development, but does not fully address these impacts, particularly in landscapes where the topography is moderately sloping or steep. Therefore, the potential secondary impacts should be fully evaluated and all options for minimization of impacts explored.

Most of the streams reaches to be impacted are identified as ephemeral and intermittent. Collectively, these streams provide natural flood control, sediment regulation, nutrients, organic matter, and protection of water quality and quantity. Intermittent streams support biodiversity by providing habitat for macroinvertebrates and amphibians, and ephemeral headwater stream reaches collect organic matter from the surrounding area and convey this material to be processed downstream. As a result, ephemeral and intermittent streams are largely responsible for maintaining the quality of downstream riverine systems such as the Dan and Roanoke Rivers. The loss of these resources on the local watershed and downstream should be carefully assessed.

The proposed impacts also can be described as "top of channel" fills of streams and fills of headwater riparian wetlands. This activity is likely to have significant and long-term impacts on the hydrology and morphology of downstream channels as the normal hydrologic regimes are

disrupted and runoff and erosion is accelerated. These fills, in conjunction with the creation of extensive impervious surface adjacent to the remaining channels, may have severe impacts on the remaining and downstream resources, particularly given the topography and geology of the site. Based on information provided in the JPA regarding mussel habitat, reaches of both Trotters and McGuff Creek already have significant levels of siltation. The applicant has not demonstrated that substantial secondary impacts can be avoided by the proposed plan.

According to the information provided, the current proposal will convert 43% of the site to impervious cover. While adequate stormwater management can reduce the most severe impacts, stormwater management does not fully address the concerns regarding water quality and habitat degradation from the project. Stormwater runoff is only one aspect of secondary impacts. When properly constructed and maintained, stormwater best management practices reduce peak flows and some pollutants, but have not yet been shown to entirely eliminate impacts. Secondary impacts to the Trotters Creek watershed (HUC 030101030903) from the construction and maintenance of the project should be fully evaluated.

As indicated in the cover letter, cumulative impacts of the project and other existing and proposed projects in the watershed must be fully assessed to evaluate the potential for major impairment. RIFA indicated that there are no significant impacts on the Dan River because the percentage of the overall drainage area impacted is small. This statement is not sufficient to address concerns regarding the overall impacts from the multi-phase project and other existing and proposed projects in the watershed. It also does not address the overall impacts to the HUC 12 Trotters Creek watershed, which includes McGuff Creek and the unnamed tributary system to the Dan River. Additional impacts to these watersheds may be anticipated as the Berry Hill site is developed. The site appears to comprise the majority of the Trotters Creek sub-watershed, and a significant portion of the Cascade Creek watershed (HUC 0301010309). If the entire project is built, the impact on both the Trotters Creek and Cascade Creek watershed could be substantial, which could adversely impact the Dan River. Some of the factors to evaluate include the percentage of streams and wetlands in the Trotters Creek and Cascade Creek watersheds that will be impacted from the overall plan for Berry Hill, the overall percentage of the Trotters Creek and Cascade Creek drainage areas that will be converted to impervious area, and existing impairments and issues that have been identified in the watersheds.

All proposed or likely impacts associated with the build-out of the project should be assessed. The overall impact from all phases of the project should be addressed, along with any proposed or reasonably anticipated road, rail, or utility construction or upgrades, including the electric substation.

The permit revision response also indicates that no new water withdrawal will occur for Phase 1. However, it is unclear whether additional water sources will be needed during later phases. The applicant should indicate the source(s) of water for Berry Hill and indicate whether additional water withdrawals will likely be needed in the future.

In addition to this proposed project, the overall impact from other planned development projects in the Dan River watershed should be assessed, including but not limited to: Commonwealth Crossing, Cane Creek Centre, Cyber Park, Ringgold East and West Industrial sites, Riverview

Industrial Park, and other sites in the region which have been or are targeted for industrial development, including other potential Virginia Economic Development Partnership and Tobacco Indemnity Fund development sites. These sites could collectively impact waters of the U.S. in the watershed, along with other types of development and stressors, including the coal ash spill, existing impairments, water withdrawals, and other potential activities such as hydraulic fracturing and uranium mining. These cumulative effects need to be identified and evaluated along with the direct and secondary impacts from the proposed Berry Hill project in its entirety.

Alternative Analysis

The materials provided by RIFA state that Virginia needs to create an inventory of large sites with minimal site development risk to attract major private-sector investments and employment opportunities to relatively high unemployment areas. The applicant indicates that pad sites should be ready for prospective industries to complete construction within a 12-18 month time frame. However, it remains unclear that a full range of alternatives have been considered to attract businesses, including potentially less environmentally damaging sites, or alternative layouts.

The Market Analysis prepared by Jones Lang LaSalle identified the target manufacturing industries most likely to locate at Berry Hill. Nonetheless, it is not apparent that a transformative user would be restricted to one of these three industries. Without having tenant(s) committed to building on this site, EPA cannot determine that the project as proposed is the least environmentally damaging practicable alternative. Documentation from tenants committed to building on this site should be provided, and their specific needs considered.

Despite the large land area available, Berry Hill has substantial topographic challenges and limited developable area due to the topography and existing resources. While the applicant's intention is to create large, flat pads for industrial users, the topography of the region is better suited for campus style industrial parks with flexible size and configuration. EPA recommends that the applicant continue to evaluate this alternative.

<u>Offsite Alternatives</u>
It remains unclear why an offsite alternative would not meet the purpose and need of the project.

The Market Analysis evaluated the relative competitiveness of sixteen other sites for the target industries in the primary, secondary and tertiary market areas. Four of the sites reviewed were determined to be the most competitive to Berry Hill. These sites include the Burlington-Hurt site, Commonwealth Crossing, the DuPont Site, and the Hopkins-Buist site. It remains unclear that none of these sites or other sites in the primary market area could be developed or redeveloped to accommodate large industrial users. The Market Analysis also did not evaluate or estimate aquatic resource impacts at the sites.

The Market Analysis appeared to analyze the potential sites from the viewpoint of potential large-scale industrial users. However, RIFA's proposal at Berry Hill includes preparation of pads and infrastructure to make the Berry Hill site attractive to a prospective user. It appears that

RIFA's goals could potentially be accomplished by preparing a vacated industrial site for redevelopment.

Site remediation and upgrades were cited as issues at the Burlington-Hurt site and the DuPont site. As previously noted, an organization such as RIFA could promote the reuse of brownfield sites by remediating and preparing the site for new development. By remediating a brownfield site, RIFA could eliminate many of the challenges associated with brownfields development for industry users, including the longer timeline for environmental assessment and cleanup activities. Jones Lang LaSalle observed that 70% of vacant industrial properties are not considered to be attractive or viable locations for new users and remain unoccupied

Both federal and state incentive programs can potentially be available to assist in these efforts. EPA's Brownfields Program is designed to empower states, communities, and other stakeholders in economic redevelopment to work together to evaluate, clean up, and sustainably reuse brownfields. The program provides direct funding for brownfields assessment and cleanup, revolving loans, and environmental job training. In addition to direct funding, EPA also provides technical information on brownfields financing matters, and collaborates with federal partners and state agencies to identify other resources that can be used for brownfields remediation and redevelopment. We would be happy to assist RIFA in finding resources to promote cleaning up and reinvesting in these properties. Information regarding the EPA Brownfields Program can be found at: http://www.epa.gov/brownfields/.

The Market Analysis also indicates that the Burlington-Hurt site is too far from the City of Danville and would likely not provide suitable employment for the City. However, this appears to conflict with the determination that the Burlington-Hurt Site is within the primary market area. The Market Analysis defined the primary market as the area which corresponds to RIFA's jurisdiction and is the area of targeted economic development for the Berry Hill Industrial project.

Onsite alternatives

As previously stated, EPA appreciates the effort taken by RIFA to reduce impacts and identity potential uses of the site. However, it is unclear that the onsite proposal represents the least environmentally damaging practicable alternative (LEDPA). If an offsite alternative is not viable, the applicant should continue to evaluate onsite alternatives that reduce and minimize the impacts to aquatic resources. Specific areas of further discussion include the following:

The Berry Hill site is approximately 3500 acres in size, which should allow some flexibility of siting Phase 1 to avoid impacts to aquatic resources. Given the large area available, it is unclear why this specific area has been selected for Phase 1, and why the proposed Phase 1 area could not be expanded or modified to areas that avoid most impacts to aquatic resources.

Impacts from construction of utilities and other infrastructure should also be further evaluated. Shifting the alignment of the rail line, proposed roads, and other transportation infrastructure to reduce impacts should be explored. Likewise, siting of the sewage facilities should be evaluated. Also, directional drilling of utilities was determined to be expensive; however, it may be valuable in some locations to avoid impacts to higher-quality resources.

Three potential layouts were identified within the current Phase 1 area, but the Financial Analysis indicated that minimally-impacting Option 1 was not "economically viable" based on the projected hurdle rate. Impacts to aquatic resources for preferred alternative Option 2 are substantially higher than Option 1. However, the potential building square footage does not appear to be significantly different between the two options, based on the drawings provided. The calculation of the hurdle rate is based on a number of assumptions, and it is unclear what specifically makes Option 1 impracticable. It is also unclear if these factors could be adjusted so that the hurdle rate would be exceeded.

Other onsite options may exist that represent less-damaging practicable alternatives. Overall, impacts to the highest quality and most sensitive resources should be avoided and minimized. For example, the largest proposed wetland impacts for the preferred layout are Impacts #12 and #13. Wetland fills would be substantially reduced if these impacts were eliminated.

Finally, a smaller initial phase of construction with additional phases after tenant(s) are secured may be appropriate.

Minimization measures should also be fully evaluated. EPA continues to encourage the incorporation of low impact development methodologies (LID) into development plans to reduce impacts to aquatic resources. LID practices and design strategies endeavor to minimize impervious surfaces and their impact and are not restricted to stormwater treatment. While the revision indicates that bio-retention facilities will utilized and LID will be used as much as possible, it is unclear what specific actions will be taken to reduce impacts from development of the project. Likewise, stormwater management was discussed, but a comprehensive plan that addresses discharge locations, rate, and volumes and pollutant retention and reduction should be provided.

Mitigation

The applicant proposes to compensate for the permanent stream channel impacts with a combination of purchasing credits and riparian buffer preservation. Wetland impacts will be compensated through purchase of 12.68 acres of wetland credits from an approved bank. The applicant determined that 6,577 stream credits would be required to compensate for the stream impacts, using Unified Stream Methodology worksheets. Currently, only 2,524 stream credits are available in the watershed. RIFA proposes to purchase these credits and to preserve buffers along 33,244 LF of watercourses onsite. The applicant indicates that preservation would yield 6,644 compensation credits.

RIFA has requested that the credits in excess of the required mitigation be used for future phase of development. As indicated previously, the proposed mitigation is unlikely insufficient to offset the proposed impacts, and a surplus of credits should not be anticipated based on the current plan.

As expressed in our previous comment letters, EPA has a number of concerns with the onsite preservation proposal as mitigation. The existing quality of the stream resources to be preserved

is currently unclear. Both the stream and buffer quality should be fully evaluated. Impacts on the streams within the proposed preservation areas from timbering or other activities should be assessed.

In addition, a significant portion of the watershed is targeted for on and offsite development, which raises concerns about sustainability of the preserved area. The potential for stormwater runoff during the extensive clearing and grading of the site during construction and from the large impervious area following construction is likely to cause both increased sediment load and accelerated instream erosion. This will likely adversely affect the channels proposed for preservation.

Targeted onsite preservation may reduce secondary impacts, but it is unclear that what benefit will be offered by the current proposal. Given the extent of development and the topography, a 200 lf buffer may provide only minimal protection; a larger buffer or preserved area could potentially be more appropriate. Onsite preservation proposals should also include adequately protected headwater streams and wetlands to provide refugia for biota, sources of good quality water, sources of carbon and nutrients, and macroinvertebrates for colonization.

In light of the proposed current and future development within the Trotters Creek sub-watershed and the likelihood for adverse modifications as a result, it is unclear whether the proposed preservation meets the Mitigation Rule criteria.